TECHNICAL SPECIFICATION

COM1000
POWER AMPLIFIER

DESCRIPTION

The COM1000 is a high-efficiency Class AB amplifier with the linearity of a Class A design. Its driver and four power amplifiers use DMOS transistors. The output from the four power amplifiers is summed by an output power combiner before passing through a selectable, multiband, low pass filter. The unit is rated for PEP and average, at maximum power.

The amplifier incorporates a sophisticated microprocessor-based controller which is used for normal “housekeeping” functions. In addition the processor serves as the control interface for an external exciter via an RS-232/422 or 485 serial interface. Built-In Test (BIT) routines continuously monitor conditions within the amplifier and transmit status information upon request.

The COM1000 is designed to be driven by an exciter, can easily be adapted to a customer’s specific model and provides status information to the exciter.

FEATURES

- Modular Design
- 1000 watts PEP and Average
- 1.6 to 30 MHz
- Automatic Level Control (ALC)
- Operates into VSWRs up to 3:1 with graceful power degradation
- VSWR protection above 3:1
- Multirange low pass filters
- 19 inch rack mountable
- PS-248 external power supply
- RS-232/422/485 interfaces
- Adaptable to customer’s exciter

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DEFENSE APPLICATIONS, INC.
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An ISO 9001Certified
RF Systems Group

COM1000 POWER AMPLIFIER SPECIFICATION

SPECIFICATIONS

Frequency Range:	1.6 to 30 MHz.
Power Output:	1000 watts (±0.5dB) PEP and average into 1.3:1 VSWR load.
Power Input:	< 100mW PEP, 50mW average for rated power output.
Input Impedance:	50 ohm, 1.5:1 VSWR maximum.
VSWR Turndown:	Operate at reduced power from 1.5:1 to 3:1 VSWR. Stable at any load; protected for infinite VSWR.
3rd Order IMD:	>36 dB below PEP.
RF Noise:	At least 75 dBc/Hz below a 1kW output reference level.
Spurious Emissions:	-60 dBc or better within ±5% of the operating frequency. At least -80 dBc beyond ±5% from the operating frequency.
Harmonic Levels:	-63 dBc or better at rated power into a 50 ohm load.
Frequency Change Time:	20 ms maximum between any two frequencies.
Key Control Time:	RF Power is within ±1 dB of steady state level in less than 10 ms after key ON. RF power is reduced by more than 50 dB within 5 ms after key OFF.
Altitude:	Operating: 0 to 10,000 ft Nonoperating: 0 to 50,000 ft
Temperature:	Operating: 0^0C to + 50^0C at sea level; maximum temperature derated linearly to + 20^0C at 10,000 ft Nonoperating: -40^0C to + 60^0C
Humidity:	0 to 95% relative humidity, non-condensing.
Cooling:	Forced air-internal fans.
Acoustic Noise:	55 dBa.
Power Supply:	PS248 dual switch mode power supply 116 or 220 VAC selectable.
Front Panel Indicators:	VSWR fault and Over temperature fault
Control:	RS-232/422/485 serial bus ALC to the external exciter BIT parameters via serial bus.
Dimensions:	
Amplifier:	10.5" (26.7cm) (H) x 22.0" (55.9cm) (D) x 19.0" (48.3cm) (W)
PS248:	7.0" (17.8cm) (H) x 19.5" (49.5cm) (D) x 19.0" (48.3cm) (W)
Weight:	
Amplifier:	60lb (27.2kg)
PS248:	40lb (21.8kg)

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